Precision and productivity combine in CUGHER's Series J

Combining mechanical robustness, advanced automation and wide format flexibility, CUGHER's Series J automatic silk screen printing technology is designed for industrial flat glass. It delivers high repeatability, controlled productivity and consistent quality across automotive, architectural and solar applications - supporting demanding high-performance manufacturing environments worldwide.

The Series J automatic silk screen printing technology has been developed to address the growing requirements for precision, repeatability, and productivity in industrial flat glass processing. Its mechanical robustness, advanced automation, and dimensional flexibility position it as a benchmark solution for demanding production environments. Conceived for automotive, architectural, and solar glass manufacturing, the Series J integrates controlled handling, stable positioning, and consistent print quality within a fully automated system designed for high-performance industrial use.

MACHINE ARCHITECTURE AND MECHANICAL STABILITY

The Series J can be configured as a complete printing line, consisting of an entry conveyor with pre-alignment system, a rigid printing unit, and a synchronized exit conveyor. This configuration ensures controlled glass handling and stable positioning throughout the printing cycle. The printing table, manufactured from specially treated aluminum, guarantees long-term flatness and mechanical stability, even with large glass formats. A timing belt-driven transport system provides smooth, precise, and vibration-free movement, while an automatic glass self-centering system aligns each sheet accurately on the printing table.

PRINTING SYSTEM AND PROCESS CONTROL

The squeegee and flood bar assembly is engineered for precise and flexible process control. Independent speed adjustment and pressure regulation via proportional valves enable accurate and repeatable ink deposition

across the entire glass surface. A stainless steel flood bar with side wings ensures uniform ink distribution, and Vulkollan squeegee blades can be used on both sides before re-sharpening, reducing consumable costs. Optional edge-to-edge printing enables ink deposition up to the glass edge, achieving excellent image definition with repeatability of +-0.08 mm.

DIMENSIONAL RANGE AND PRODUCTIVITY

The Series J is available in multiple configurations, allowing printing from either the short or long side of the glass. Supported formats range from 130 × 215 mm up to 250 × 400 mm, with glass thicknesses between 1.2 and 10 mm. Despite this flexibility, productivity reaches up to 300 pieces per hour. Cycle times can be as low as 12 seconds for smaller formats and up to 21 seconds for larger sizes, balancing speed with print quality.

INDUSTRIAL APPLICATIONS

In automotive glass production, the Series J ensures precise and repeatable printing of ceramic borders, functional patterns, and sensor-related areas, including large formats such as windshields, backlites, and rooftops. For architectural glass, the system supports consistent decorative and functional printing on large panels used in façades and interiors. In solar glass manufacturing, stable transport and controlled printing parameters enable accurate deposition of functional layers, supporting efficiency and yield.

AUTOMATION, CONTROL SYSTEM AND RECIPES MANAGEMENT

The Series J is fully automated and managed by a PLC-based control system with an intuitive touch-screen operator panel. Multiple production recipes can be stored, enabling rapid changeovers between glass formats and printing configurations. Each recipe can recall centering settings, printing speeds, peel-off values, screen positioning, and pressure parameters, reducing setup times, minimizing human error, and ensuring consistent print quality in high-mix, high-repeat production.

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